

A photograph of a green alfalfa field with numerous common groundsel weeds scattered throughout. The weeds are small, yellow-flowered plants with deeply lobed leaves. In the background, there is a line of trees and utility poles under a clear sky.

Common Groundsel: A serious weed problem in California Alfalfa

3 year Summary of Field Research

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Groundsel Facts

Common Groundsel is a serious weed pest of alfalfa in the central valley's and desert region affecting 100,000's of acres.

The presence of poisonous weeds in feedstock's such as Common groundsel Coast fiddleneck and Poison hemlock have caused serious health issues and even death of horses and cattle.

Groundsel is highly toxic in all forms of feed; hay, silage & grazing.

Groundsel is a winter annual that germinates over a wide range of temperatures and soil types from Oct to March, thus the need for effective post and pre emergent herbicides.

Groundsel plants are prolific seed producers, as many as one million seeds in a season. Effective herbicide programs every year are necessary to keep hay fields free of groundsel.

A wide-angle photograph of a lush green alfalfa field. The foreground and middle ground are filled with dense, vibrant green alfalfa plants. Interspersed among the alfalfa are numerous small, white, daisy-like flowers, which are identified as groundsel in the text. The field extends to a flat horizon line under a clear, light blue sky. In the far distance, a few utility poles and some trees are visible on the horizon.

Research trials are on
going in groundsel
infested alfalfa fields
beginning in 2008



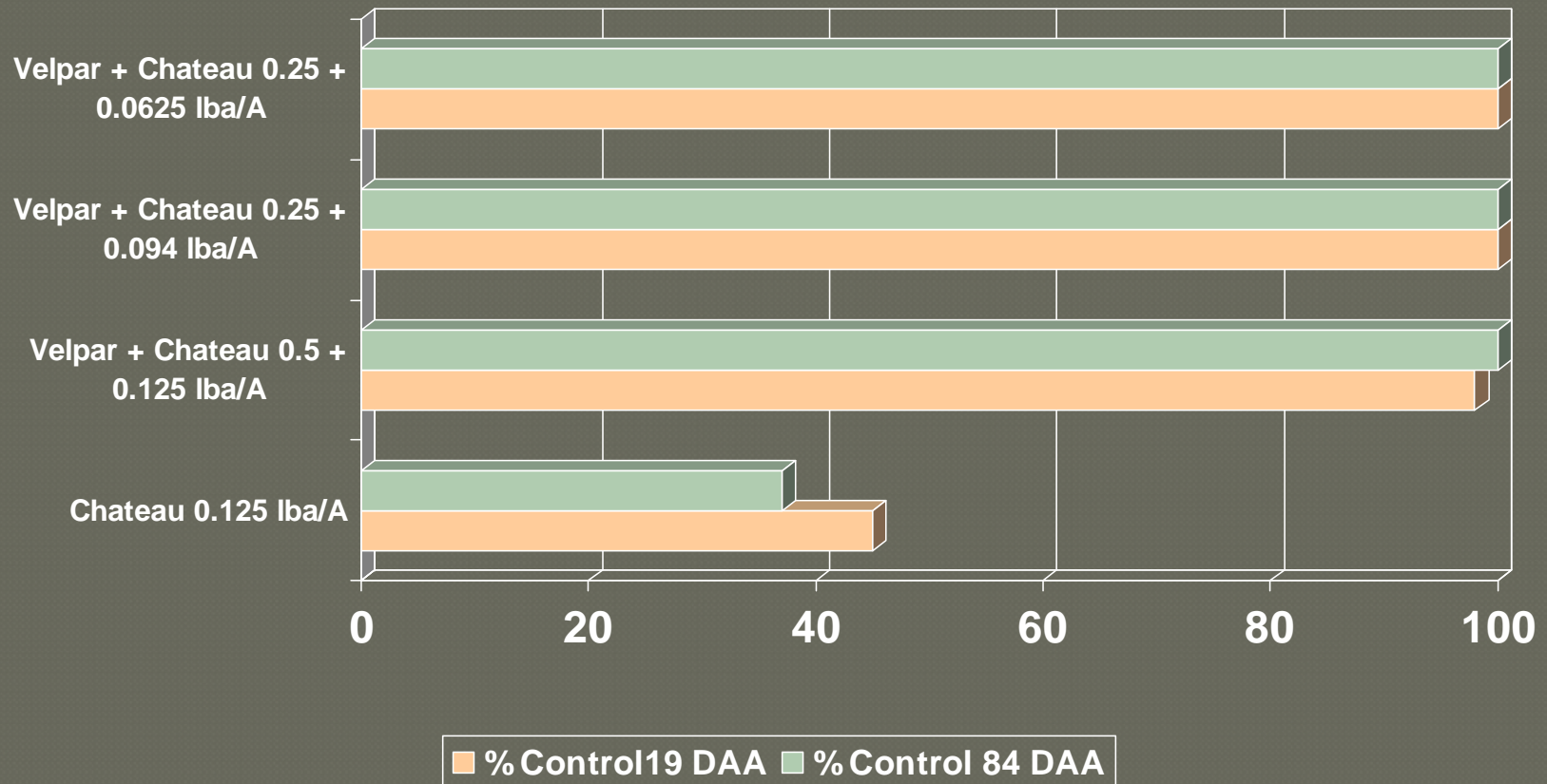
Our groundsel trials evaluate registered and new herbicides products; use rates, different application timings, surfactants, and herbicide combinations to reduce use rates.

In depth research to tag
individual groundsel
plants to measure
herbicide susceptibility
at different growth
stages.



Groundsel Control in Alfalfa

2008/09

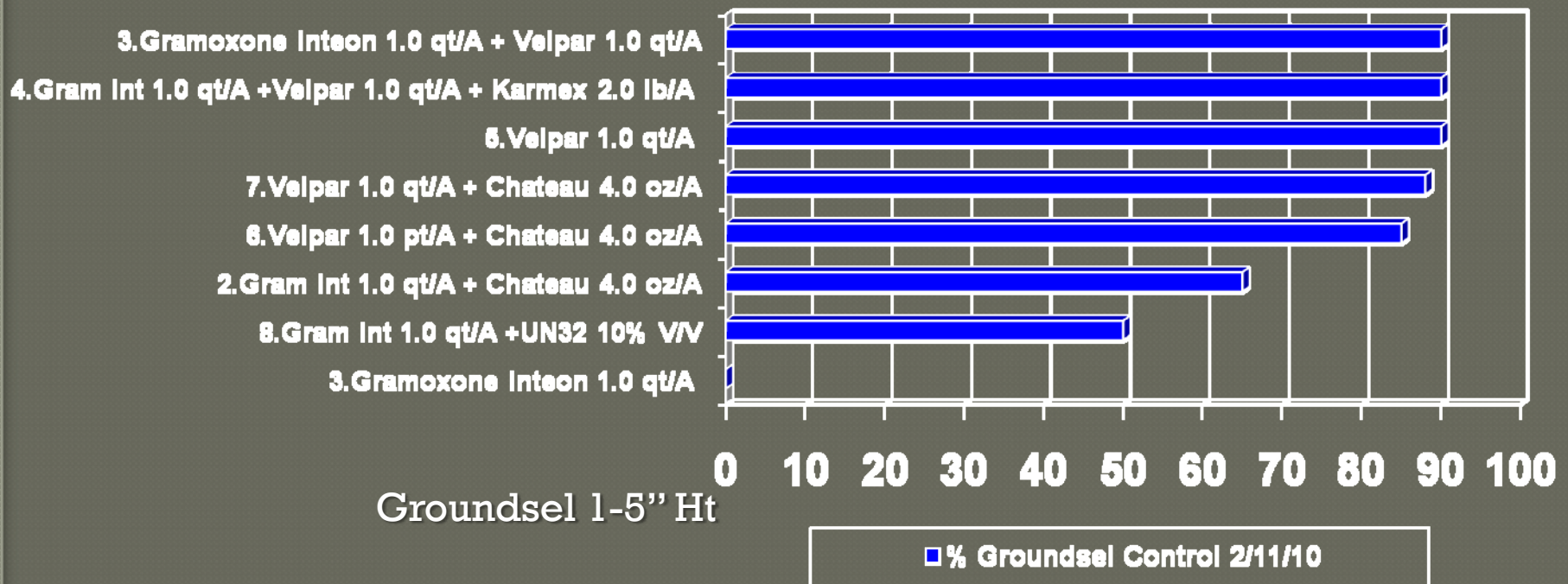


Application: 12/11/08

Ad-Wet 90CA (NIS) added to all treatments at 0.25% V/V

Early season Groundsel Control in Established Alfalfa

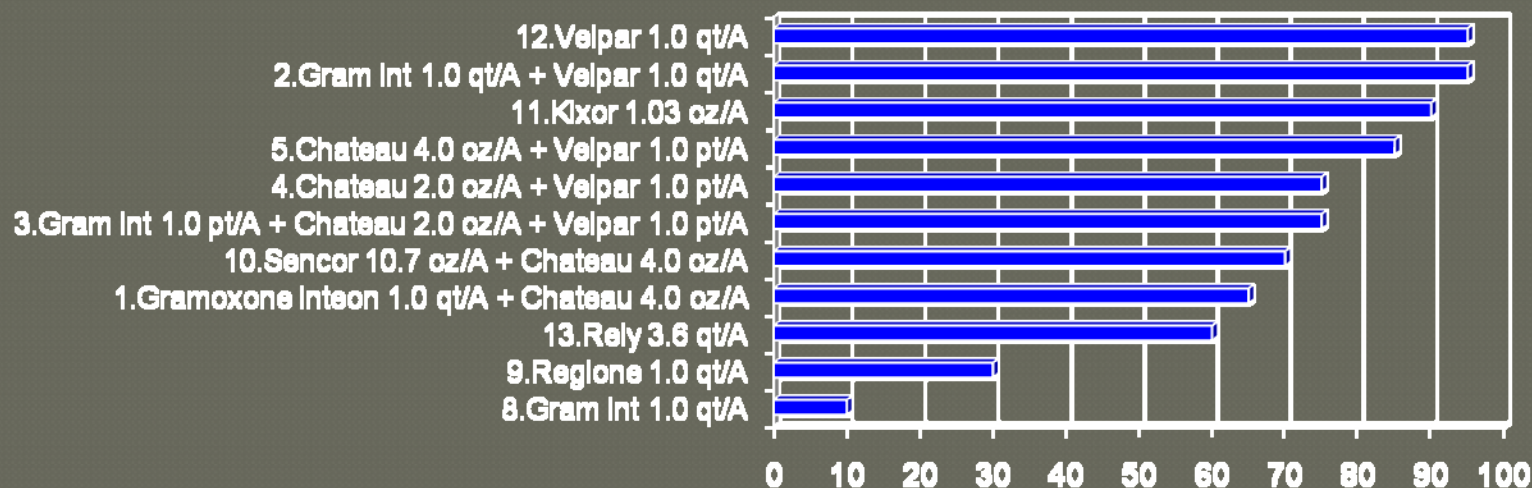
2009/10



Application made: 10/26/09

Data = 105 days after treatments

Mid Season Groundsel Control in Established Alfalfa 2009/10



68 days after treatments

Groundsel 1"- 6" flowering

■ % Groundsel Control 2/11/10

Application: 12/3/09

Velpar

7 days after application



2 months after application



Gramoxone Paraquat

3 weeks after application



2 months after application



Chateau



Surviving groundsel plants

New Developments

- We continue to research new herbicides to control groundsel in alfalfa.
- Some herbicides show promise in killing groundsel at a wide range of growth stages .
- Time requirement for new registrations under the most optimistic scenario would be several years.

Summary

- Velpar (*hexazinone*) is the only herbicide to control both germinating and emerged groundsel plants.
- Velpar was effective at the 0.5 Lbs/A (2 pt/A) or higher and provided >90% control season long.
- Gramoxone (*paraquat*) was partially effective on plants smaller than 1". Larger than 1" and branching were not controlled. New germinations of groundsel continued for months.
- Chateau (*fumioxizone*) did not control emerged plants. However, it was effective in preventing new germinations.

Conclusion

- Alfalfa is largest acreage crop produced in California and Velpar is needed for groundsel control in most of the production areas.
- Growers have to produce weed free / high quality feed for their dairy and horse customers. If poisonous weeds such as common groundsel are not controlled, serious health consequences will arise and impact the economic viability of these industries.



Thank You

Questions?